SCHLAGWORTVERZEICHNIS (A)
==========

2-Acetylaminofluorene
ACTH (Beta-Corticotropin, adenocorticotropes Hormon)
Actinomycin D (= Dactinomycin)
Active Transport
Acute Phase Proteins (APP)
Acyl-tRNA-Synthetase
Adenoma
Adenosine
Adenylat Cyclase
Adrenaline
Affinity Chromatography
Aktivkohle
Albumin
Alcohol Dehydrogenase
Aldolase
Aldosterone
Alloxan
Alkaline Phosphatase
Alkaptonuria
Alkylation
Allergy, Allergy Assay
Alpha-2-Antiplasmin
Alpha-2-Macroglobulin
Amanitin
Amylasen
Anaphylaktischer Schock
Anaphylatoxin
Anatomical Terms
Aneuploidy
Anoxia
Anthelmintics

2028916342

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (A)
==========

Antikörpernachweismethoden
Antileucoprotease
Antioxidants
Antithrombin 3
Arthrose
Ascorbinsäure (Vitamin C)
Aspartat-Transcarbamylase
Aspartokinase
ATP
Azaserine
Azulen

ELBA 7.40C

SCHLAGWORTVERZEICHNIS (B)
==========

Barbiturates
Basal Cells
Basement Membrane
Benzanthracene
7,8-Benzoflavone
Berotec
Beta-Blocker
Beta Globulin
Biogene Amines
Biotin (Vitamin H)
Body Weight
Boyden-Chamber
Bradykinin
Bromcyan-Spaltung (Cyanogen bromide cleavage)
Bromdeoxiuridine
Bronchial Epithelium
Bronchiektasen
Brown Adipose Tissue

2028916343

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (C)
==========

Cadaverine
Calcium
cAMP
Carbamates
Carbon Tetrachloride
Catecholamines
Cathepsin G
10T1/2 Cells
Cell Culture
Cells, Cultured
Cell Proliferation
Cervical Dislocation
Chemokinesis
Cholestyramine
Chromium
Chronic Granulomatous Disease
Clara Cells
Clastogen
Coal Tar
Cocoa
Colchicine
Colony Stimulating Factor (CSF)
Complement
Compliance
Conditions for Volunteer Studies
Conjugation
Coomassie
Coomassie Brilliant Blue
Coughing
Creatine Phosphate
Creatinine
Cyclamate

(ELBA 7.4CC

2028916344

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (C)
==========

Cytochalasin B
Cytochemistry
Cytochrome C Oxidase

SCHLAGWORTVERZEICHNIS (D)
==========

Dampfdruck
Daunomycin
Dialysis
Diazepam
Dibenz(A,H)Anthracene
1,1-Dichloräthan
Diurnal Variations
DNA Gyrase
2,3-Diphosphoglycerate
Dopamine
Dopa
Drinking
Drinking Water

SCHLAGWORTVERZEICHNIS (E)
==========

Epidemiology
Esterase, Nonspecific
Ester Hydrolysis
Ether
Evans Blue
Extracellular Space

EIBA 7140G

2028916345

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (F)
==========

Fibrinogen
Fluctuation Assay
Fluorescamine
Fluorography
Fly Ash
Free Fatty Acids

SCHLAGWORTVERZEICHNIS (G)
==========

Gamma Globulins
Ganglioside
Gaschromatographie
Gastrin
Gastro-Intestinal Hormones
Gegenstromverteilung
Gelatine
Gene Technology
Giant Cells
Glucagon
Glu-Carrier
Glucokinase
Glucose
Glucose-6-Phosphate Dehydrogenase
Glutamate Dehydrogenase
Glutamin Synthetase
Glycogen
Glycoproteins
Glycosidases
Glyoxylate
Glyoxylsäure
Goblet Cells
Guanosine
Guinea Pig Ileum

ELBA 7.4CC

2028916346

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (H)
==========

Halothane
Hashish (Cannabis)
Heinz Bodies
Hemolysis
Heparin
Hepatitis B Virus
Hepatocytes
Hind Limb
Histology
Histones
Hydracine
Hydrogen Peroxide
~~Hydroxyproline~~ s. Folie
Hyperploidy
Hypothermic Effect
Hypoxia

ELBA 7400

SCHLAGWORTVERZEICHNIS (I)
==========

Immun Complexes
Immunoelectrophoresis
Infusion
Inhibin
Initiators
Iodination of Proteins
Ischemia

2028916347

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (K)
==========

Kallikrein

SCHLAGWORTVERZEICHNIS (L)
==========

Lactic Acid
Larynx Histology
Laurell-Immunoelectrophoresis
Leiomyome
Leucocytes
Levanisol
Lidocaine
Ligandin
Lipids
Lipopolysaccharide (LPS)
Lipoproteinosis, Alveolar
Liver
Luciferase
Luminol

SCHLAGWORTVERZEICHNIS (M)
==========

Markovnikov Regel
Mast Cells
Mastcytoma
MDH
Melatonin

ELBA 7'4CC

2028916348

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (M)
==========

Melanotropin, Beta MSH
Membranes
Metastases
Methylcholanthrene
Methyl Methanesulfonate
Methyl-Nitro-Nitrosoguanidine (MNNG)
Methylnitrosourea
Microsomes
Mishell-Dutton System
Mitomycin C
Motility
Muscle Contraction
Mutarotation
Mycoplasma
Myokinase
Myopathy

ELBA 7140

SCHLAGWORTVERZEICHNIS (N)
==========

Nerve Gas
Neutrophilia
N-Nitrosodimethylamine
Noradrenaline
Norharman

2028916349

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (O)
==========

Oligo (dt)-Cellulose
Opzonization
Osmolalität
Osmolarität
Ouabain
Oxygen
Oxygen Saturation

SCHLAGWORTVERZEICHNIS (P)
==========

Particles
Permeability
Peroxidase
Peroxidase Activity
Petrol Vapor
Phramacokinetics
Phase 2 Reactions
Phenol-O-Methyltransferase
Phenylalanine
Phorbol Esters
Phosphate
Pilocarpine (sympathomimetic)
Pituitary Gland (Hypophysis)
Pneumocytes, Type 1
Polychlorobiphenyls
Polychlorinated Biphenyls (PCBs)
Polycyclic Hydrocarbons
Potassium
Porphyria

ELBA 7140

2028916350

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (P)
==========

Prolactin
Prolylhydroxylase
Protease
Protease Inhibitors
Pulmonary Diseases
Pulmonary Secretions
Purity
Putrescine
Pyrene
Pyridoxal 5'-Phosphate
Pyruvic Acid

ELBA 7400

SCHLAGWORTVERZEICHNIS (Q)
==========

Quality Assurance
Quarz

SCHLAGWORTVERZEICHNIS (R)
==========

Rachenabstriche
Radiochemical Purity
Radio-Iodination
Raynaud Syndrome
Recovery
Respiratory Distress Syndrom
Respiratory Epithelium
Retinol
RNA

2028916351

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (S)
==========

Saccharin
Salicylamide
Saliva
Selenium
Serotonin
Sex Differences
Sialic Acid
Skeletal Muscle
Slow Reacting Substance of Anaphylaxis (SRS-A)
Sodium
Sodium Azide
Species Differences
Spermine
Sputum
Squamous Carcinoma
Substance P
Sympatomimetika

ELBA 7140

SCHLAGWORTVERZEICHNIS (ST)
==========

Staphylococcus Aureus
Staphylococcus Epidermidis
Stilbene
Streptococci
Styrene

2028916352

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

SCHLAGWORTVERZEICHNIS (T)
==========

Testes
Thalidomide
Theobromine
Thiocarbamides
Thiamine
Thromboplastin
Thy-1 Antigen
Toxic Actions
Toxicology
Triglycerides
Triton-X-1oo
Trypan Blue
Tyrosine

ELBA 7.4CC

SCHLAGWORTVERZEICHNIS (U)
==========

Ultrafiltration
Ultraschall-Homogenisation
Urethane
Urokinase
Uteroglobin

SCHLAGWORTVERFZEICHNIS (V)
==========

Vasodilators
Viability
Vitamin D

2028916353

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

4.Mrz.87 GD1LITB20

CODE
====

rt: rat

rb: rabbit

gp: guinea pig

hm: hamster

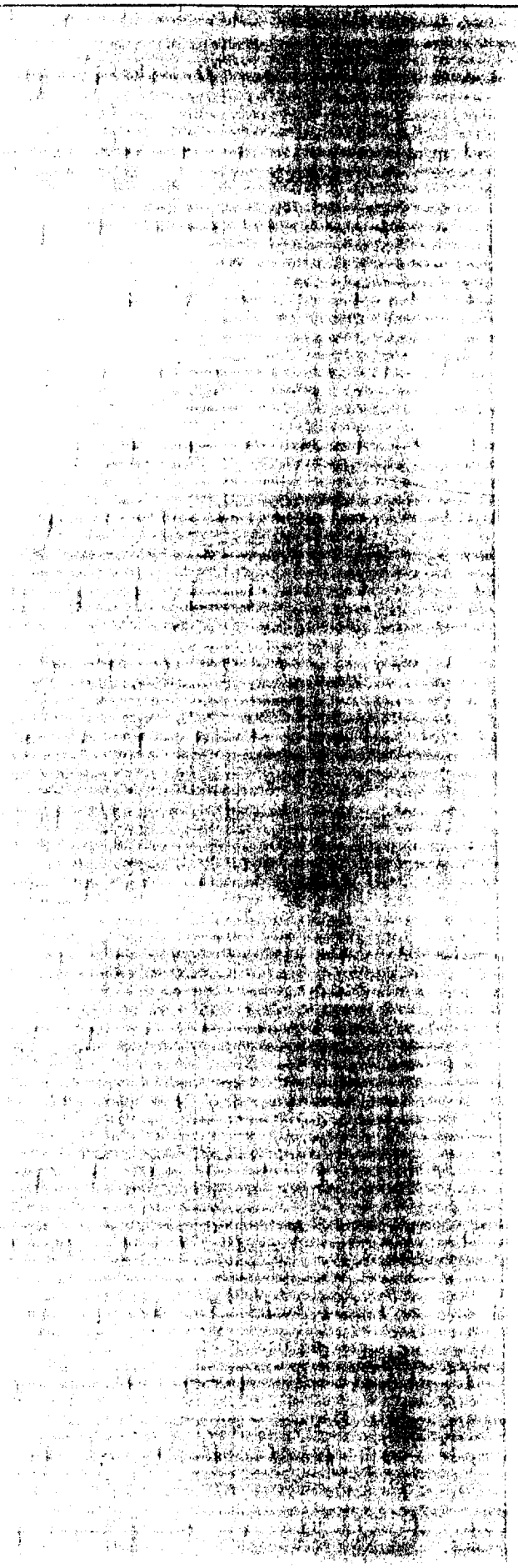
do: dog

mu: mouse

ELBA 7440C

2028916354

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000



A

LEITZ 1260

2028916355

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

2-ACETYLAMINOFLUORENE
==========

Metabolism:

step 1: 2-AAF to N-OH-~~X~~-AAF (not electrophilic) (rt)
step 2: N-OH-2-AAF to X, X binds to DNA to form 1 adduct
(= N-(deoxyguanosin-8-yl)-2-aminofluorene).

step 2 catalyzed by cytosolic N,O-acetyltransferase, because adduct contains no 2-acetylaminofluorene
(Allaben, W.T., Weis, C.C., Fullerton, N.F. and Beland, F.A., Formation and persistence of DNA adducts from the carcinogen N-hydroxy-2-acetylaminofluorene in rat mammary gland in vivo, Carcinogenesis 8: 1067-1070 (1983))+

86 0/0 N-(deoxyguanosin-8-yl)-2-acetyl-aminofluorene found with phage DNA
(Tang, M. and Liebermann, M.W., Quantification of adducts formed in DNA treated with N-acetoxy-2-acetylaminofluorene or N-hydroxy-2-aminofluorene: comparison of trifluoroacetic acid and enzymatic degradation, Carcinogenesis 8: 1001-1006 (1983))+

Metabolic Activation:

Cytochrome P1-45o more effective than other P-45o forms
(Nebert et al., Proc. Natl. Acad. Sci., Vol. 76, 11: 5929-5933 (1979))+

Carcinogenicity:

experimental animals: liver
(CaD, p. 222)
mammary gland (rt)
(Allaben, W.T., Weis, C.C., Fullerton, N.F. and Beland, F.A., Formation and persistence of DNA adducts from the carcinogen N-hydroxy-2-acetylaminofluorene in rat mammary gland in vivo, Carcinogenesis 8: 1067-1070 (1983))+
kidney

(Timbrell, p. 177)

2028916356

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD69 (S) B3 LA (PW) 24.Aug.81

ACTH (Beta-Corticotropin, adenocorticotropes Hormon) (1)
====

Chemie und Struktur:

39 AA, Peptid, hitzebeständig, sehr Proteolyse-empfindlich,
Mr: 45oo
AA-Sequenz bekannt
Biol. aktiv: 1-23, artspezifische Unterschiede
im Bereich 24-39
Vermutlich aktive Sequenz (n. Geigr S.159): 6-1o
Dieser aktive Bereich gilt auch for MSH (cf.) und LPH (Geigr 159). Auch beta-MSH-Wirkung (Sequenzhomologie 4-1o)

Synthese: Schwyzer

Vorkommen:

Adenohypophyse, basophile Zellen

Pharmakologie:

Kurzkettige (18 AA), hochaktive, synthetische Peptide pharmakologisch besser geeignet, da sie wegen niedrigerem Mr Schleimhäute besser durchdringen können als das natürliche Hormon.

Wirkung:

Stimulierung d. NNR (Cortisol) = glandotrop

Regulation:

NNR-Hormone im Blut
Stress
Ausschüttung kontrolliert durch Corticotropin releasing factor (Zwischenhirn), Neurosekret

2028916357

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ACTH (Beta-Corticotropin, adenocorticotropes Hormon) (2)
====

Mechanismus:

incr. of ACTH
incr. of cAMP im NNR
activation of phosphorylase
incr. of glycogenolysis
incr. of PPP
incr. of NADPH
incr. of steroid hydroxylase activity
(17- 11- and 21-)
incr. of glucocorticoid synthesis (from progesterone)

Appetite Regulation:

blood levels respond to feeding/fasting: → CNS mechanism inhibits (rt)
normal feedback between corticoid and ACTH secretion (Heybach and
Vernikos-Danellis, Neuroendocrinology 28: 329-338, 1979+)

2028916358

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ACTINOMYCIN D (= DACTINOMYCIN)
==========

Intercalation:

DNA-Act.-complex studied with x-ray:
phenoxazone-ring intercalates between base-paired dinucleotide sequence GpC, peptide subunits lie in narrow groove and interact with dG residues on opposite chains through H bonds
(Cold Spring Harbor 36: 270, 1971)

acts also on phospholipids

Carcinogenicity:

suspected carcinogen
(CaD, p. 106)

Teratogenicity:

Blocking of DNA synthesis causes disruption of organogenesis and (rt) death.
(CaD, p. 160)

2028916359

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ACTIVE TRANSPORT

Features:

(1) against concentration (electrochemical) gradient
(2) unidirectional
(3) energy requirement
(4) saturation kinetics
(5) specificity (stereo, e. g. L-aminoacids prefered)
(6) specific inhibition (competitive)
(7) macromolecular carrier

Function:

(1) fuel extraction even when concentration outside the cell is low (sometimes the concentration outside the cell is .LT.KM of enzyme in the cell
(2) ion transport

antiport = coupled exchange (ADP for ATP, Pi for arsenate)

Modulation:

induction and repression in bacteria

Occurence:

CNS (at choroid plexus, export from cerebrospinal fluid)	: (1) for organic acids (2) for organic bases
kidney	: (1) and (2) as in CNS
liver	: (1) for organic acids (2) for organic bases (3) for organic neutral compounds
placenta	: transport of vitamins, amino acids, sugars and ions (Calcium, iron)

from mother to fetus against concentration gradient
(CaD, pp. 30 and 42)

2028916360

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ACUTE PHASE PROTEINS (APP) (1)

Alpha 1-antitrypsin,
Beta 1C-globulin,
IgG

C-reactive protein
9.5S serum protein
alpha 2 macroglobulin
(Wissensch. Kolloq., Prof. Uhlenbruck, 24.Sep.81)

Biological Role:

fast reacting "washout" system. Mechanism (e. g. C-reactive protein): APP = Lectin (cf.), recognizes termical gal residues (set free by removal of neuraminidase terminal group), couples gal-containing molecule (galane), "prepares" galane for phagocytosis by granulocytes and/or macrophages (Wissensch. Kolloq., Prof. Uhlenbruck, 24.Sep.81).

Definition Lectine:

Kohlenhydratbindende Proteine aus
Viren,
Pflanzen
Invertebraten,
Vertebraten,
die keine Ähnlichkeit zu Antikörpern haben
(Wissensch. Kolloq., Prof. Uhlenbruck, 24.Sep.81)

Klassen:

(1) gegen endständige Zucker
(2) gegen endständige Disaccharide
(3) gegen mittelständige Zucker

Serumlectine:

C-reaktives Protein
C19 (complement)
9.5S Glycoprotein
(Wissensch. Kolloq., Prof. Uhlenbruck, 24.Sep.81)

Reinigung:

Sepharose anhydrolysiert ergibt freie Gal-Reste
Affinitäts-Chromatographie mit gal als Eluent
(Wissensch. Kolloq., Prof. Uhlenbruck, 24.Sep.81)

Toxische Lectine:

SH-Spaltung: Freisetzung von Toxin + Agglutinin (Lectin)
(Wissensch. Kolloq., Prof. Uhlenbruck, 24.Sep.81)

202891636

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD9o (S) A24 WS 29.Sep.81

ACUTE PHASE PROTEINS (APP) (2)

Bedeutung:

Nekrose, Trauma, Läsion:	stimulieren Akute-Phase-Proteine	Anstieg von: C-reakt. Protein, Haptogobin Antiproteasen Abnahme von: Transferin

Schnellreagierendes "washout" System mit limitierter Spezifität (gal als endständiger Zucker), Gal-Rezeptoren (Antigalane) z. B. auf Leberzelloberflächen.
(Wissensch. Kolloq., Prof. Uhlenbruck, 24.Sep.81)

2028916362

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

Acyl-tRNA-Synthetase

Purific. of Trp-tRNAS of E. coli: MW 75000
2 ident. SU, 37000 each,
dimer has 2 binding sites
for Trp-ATP and tRNA Trp
2SH-groups, protected by
ATP and Trp.

2028916363

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD56 (S) B21

ADENOMA
=======

Description:

usually benign epithelial tumor originating from gland tissue having gland tissue structure

2028916364

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

* ADENOSINE TRANSPORT BY LUNG. Harry Steinberg, M.D. and Dipak K. Das Long Island Jewish-Hillside Medical Center, New Hyde Park, New York 11040

Adenosine triphosphate and adenosine monophosphate are hydrolyzed to adenosine on the surface of the pulmonary endothelial cell by 5' nucleotidase. Adenosine, a nucleoside and potent vasodilator, is taken up by the lung and converted by deamination to inosine. Although nucleoside transport has been examined in other cell systems, it has not been clearly defined in lung tissue. To study nucleoside transport, we used an isolated, ventilated rat lung perfused with Krebs-Ringer bicarbonate containing bovine serum albumen. In a single circulation through the lung, 60.8±2.5% of infused (^{14}C) adenosine (1μM) was removed from the circulation whereas 22.5±2.4% of (^{14}C) adenine (1μM), a purine base, was removed. In a single circulation, 28.3±3.6% of infused (^{14}C) inosine (1μM), an analog of adenosine, and 25.6±1.8% of infused (^{14}C) hypoxanthine (1μM), an analog of adenine, were taken up by the lung. Dipyridamole, (10^{-8}M) markedly reduced the pulmonary uptake of adenosine and inosine but failed to have an effect on adenine or hypoxanthine uptake. Moreover, inosine (10μM) was able to inhibit adenosine uptake by 68.5±2.9% whereas adenine or hypoxanthine had no effect on adenosine uptake. In the presence of inhibitors of adenosine deaminase, metabolism of adenosine was virtually abolished but adenosine transport out of the pulmonary circulation proceeded normally. These results suggest that a specific and rate limiting transport system may exist in the lung for adenosine as well as other nucleosides and, as in other cell systems, this transport capability may have importance for cell growth and malignant transformation. (Supported in part by NIH #R23 HL 18355)

2028916365

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

→ BGA → IRWH

AMERICAN THORACIC SOCIETY · 1905 ®

ANNUAL MEETING SUPPLEMENT

Program and Abstracts

Volume 117
Number 4
April 1978
(part 2 of 2 parts)

Respiratory Disease

AMERICAN LUNG ASSOCIATION
AMERICAN THORACIC SOCIETY
CONGRESS OF LUNG ASSOCIATION STAFF
ANNU
P

Boston, Mas

S. 155u, S.156, 59o, 61u, 165u, 167, 71u, 80o, 84u, 106o, 219o, 236u, 238u, 240, 245u, 250o, 254o, 259o, 266o, 269o, 271o, 273o, 306u, 319u, 320u, 327u, 335o, 341u, 352u, 353o, 360u, 403o,

bitte angegebenen Seiten für mich herauskopieren.

→ FJA Wh, 12.6.78

60o, 72u 220u 220o

2028916366

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD58 (S) A2o

ADENYLAT CYCLASE

Subzell. Lokalisation:

membrangebunden; Ausnahme Brevibakterium liquefaciens

Vorkommen:

In allen bisher untersuchten Eukaryonten
Max. Akt. in der Grosshirnrinde (Sutherland et al., JBC 237 : 122o, 1962)

2028916367

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD82 (S) A16 (LA) 9.Jun.81

ADRENALIN
=========

Function:

on liver: incr. of cAMP
incr. of glycogenolysis
release of glucose into blood

in muscle: similar changes, but since no G6Pase present
no release of glucose but promotion of
glycolysis and respiration

2028916368

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD27 (S) B3o (PW)

ADRENALINE
==========

Assay:

The availability of S-adenosyl-L-(methyl-3H)methionine(3H-SAM) at very high specific activity has made possible the development of a highly sensitive and specific radioenzymatic assay for catecholamines. The basis of assay is either to O-methylate or to N-methylate the catecholamines in biological systems using catecholamine-O-methyl transferase (COMZ) or phenylethanolamine-N-methyl transferase (PNMT) respectively with 3H-SAM as the methyl donor. After methylation the individual catecholamines, as their methyl derivatives, are separated and quantified. Amersham research news 9, 1981)

2028916369

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD27 (S) A1o (PW)

AFFINITY CHROMATOGRAPHY
==========

Gel for coplanar 1.2-diols:

use as general lectin for:
carbohydrates
nucleotides
glycoproteins
catechols

Matrex gel phenyl borate, Amicon

2028916370

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD57 (S) B1e

GD69 (S) B8 PW (WS) 14.Sep.81

AKTIVKOHLE
==========

Adsorption von ungesättigten, besonders aromatischen, hydrophoben Substanzen (z.B. Kohlenwasserstoffe)

Schwache Bindung von Kohlenhydraten

2028916371

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD57 (S) B1o

ALBUMIN
=======

Serum Concentration:

decreases with increased age and weight of white women (Wingerd, J., Sponzilli, E.E., Clin. Chem. 23: 131o-1317, 1977)+

Cigarette Smoke:

decreases albumin of white smoking women (Wingerd, J., Sponzilli, E.E., Clin. Chem. 23: 131o-1317, 1977)+

2028916372

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD78 (S) B1 (LA) 3.Jun.81

ALDOLASE (1)
========

MW 14o,ooo - 16o,ooo class I = mammal.,
higher plants
microbiol. Ald. requires metal ion (⇒class II.)

3-Isoenzymes:

(1) Muscle 16o,ooo - 4o,ooo SU, $\frac{FDP}{FIP}$ = 5o α,ß

(2) Liver)
)tetrameric
(3) Brain)

tetramer → 2 non-identical SU, random combination → microhetero-genity (5 bands: $b_4, b_{3a}, b_2a_2 \ldots$)

immunochemical evidence
brain enzyme contains su similar to muscle enzyme

Specificity:

DHAP specific substrate sometimes FIP (esp. for B!)
Aldehyde unspecific

DHAP forms Schiff's base with Lys in active site (active site label)
+ $NaHBo_4$ - stabile amine.- isolated.

1 single gen for the two non-identified SU
- ß modified ß deamination Asn-Asp mechanisum unknown
only α found in rabbit muscle
younger than 3 months.

Muscle, liver, brain are all tetramers, similar MW, same active site, no subunit interaction

Mechanismus d. Katalyse siehe S.78 Karlson

4 SU are nearly identical. evidence: BrCN-peptides
detected difference: α-Asn
ß-Asp

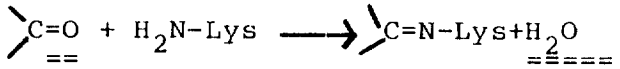
2028916373

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ALDOLASE (2)
========

Active Centre:

(1) Lys 221 - forms Schiff's base-linkage to DHAP
evidence:
(a) P32-DHAP, frozen in bond with $NaBH_4$; hydrolysis
(b) oxygen exchange between carbonyl of FDP and H_2O



Lys-res. has abnormally low pK ➔ no protonation at physiol. pH
reason: either hydropholic environment or adjacent (+)-charge

(2) His (?): photooxidation ➔ labilization of C-3 proton of DHAP and its exchange with tritium H_2O abolished ➔ stop of release of DHAP from enz.
(Essays in Biochem. 8 : 16o)

2028916374

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD69 (S) B5 (LA) 22.Jun.81

ALDOSTERONE

Function:

Seems to affect activity of Na-pump, steroid is bound in target organ by specific nuclear and cyloplasmic proteins, from which it is displaced only by antagonists (spirolactones, other steroids).
results in de novo protein synthesis - increases membrane permeability

Structure:

C18-steroid, aldehyde functional group at C18, forms half-acetale with C11-hydroxyl group.

2028916375

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD56 (S) B15 WS

ALLOXAN
=======

Induction of Diabetes in Experimental Animals:

Rapid uptake and generation of hydrogen peroxide, superoxide anion radicals and hydroxyl in pancreatic islets and selective necrosis, low activity of GSH peroxidase
(Malaisse, W.J., Malaisse-Lagae, F., Sener, A. and Pipeleers, D.G., Determinants of the selective toxicity of alloxan to the pancreatic B cell, Proc. Natl. Acad. Sci. 79: 927-93o, 1982+)

2028916376

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

20.Nov.84 GD13 (LIT) B11 (FW,RZ)

ALKALINE PHOSPHATASE

Influence of Drugs:

plasma level influenced mostly by cholestatic effect (Siest et al., Lab. Health Sci. 4th Int. Coll. 1978, 204-209 (1980)+)

Assay:

It has been reported that the activity of alkaline phosphatase depends markedly on the medium in which the assay is run. Glycine and ethanolamine buffers are reportedly inhibitory while ethyl-aminoethanol and diethanolamine buffers stimulate activity. Studies in Sigma laboratories have shown that when alkaline phosphatase assays are run in the system containing the diethanolamine buffer, the activity is approx. 2-fold higher than the activity in the glycine system. (Sigma Broschure 8/81)+)

Pulmonary AP:

marker for type 2 pneumocytes (see BGA publication 1984)
3 isoenzymes:
2 intracellular, 1 extracellular, different sialic acid contents (Reasor et al., Lung 155 : 321-335 (1978))

Inhibitors:

p-bromotetranisole (Jansen, Life Sciences Prod. Div., B-2340 Beerse, Belgium)

2028916377

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD 78 (S) A3 LA (PW) 3.Aug.81

ALKAPTONURIA
============

Enzyme defect:
recessive lack of homogentisin oxygenase
(degradation of Phe and Tyr, benzene ring of homogentisin cannot be cleaved)
→ excretion via urine
homogentisinic acid + O_2 → alkaptone (=p-chinone)
(Buddege 82) (black)

Krankheitserscheinungen:
Erst im fortgeschrittenen Alter:
Knorpelveränderungen
arthritische Beschwerden
Versteifung der Wirbelsäule (Kaudewitz 34)

2028916378

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

3.May.84 GD5 (LIT) B7 (LA,RZ)

ALCOHOL DEHYDROGENASE

Physicochemical Properties/Structure:

Zn-containing enzyme

horse liver ADH: 3 isoenzymes: (dimer) EE (ABB 131: 288, 1969)
ES (Acta Chem. Scand. B29: SS 571, 1975)

Isoenzymes are localized in the same compartment.
E = subunit active with ethanol as a substrate
S = subunit active with 3-beta-OH steroids as substrates
(Jörnvall, pers. commun.)

Alcohol Formation in Plants:

moist seeds)
storage roots) alcoholic fermentation significant
seedling tissues) ADH and pyruvate decarboxylase widespread
embyos)

Physiological Functions:

Drunkness causes hypoglycemia.

Alcoholic cirrhosis causes Zn-deficiency in liver.

2028916379

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD69 (S) A26 (LA) 12.May.81

ALLERGY
=======

Against laboratory animals:

2o o/o of staff, handling laboratory animals develop moderate to severe symptoms.
Rodent urinary proteins are powerful allergens and may cause "hair" allergy.

2028916380

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ND: 84173095
AU: Steinhagen WH; Barrow CS
TI: Sensory irritation structure-activity tudy of inhaled aldehydes in B 3F1 and Swiss-Webster mice.
SO: Toxicol Appl Pharmacol, 72 (3) 495-503 /1984 Mar 15/IMD=8407
LA: English
CY: United States
JC: VWO SS: 0041-008X
CS: Chemical Industry Institute of Toxicology, Research Triangle Park, North Carolina.

→ DRRS
B6C3F1
Allergy assay (pat./Inf)

CT: ALDEHYDES/*toxicity IRRITANTS/* RESPIRATION/*drug effects ANIMAL ATMOSPHERE EXPOSURE CHAMBERS COMPARATIVE STUDY MALE MICE PLETHYSMOGRAPHY, WHOLE BODY SPECIES SPECIFICITY STRUCTURE-ACTIVITY RELATIONSHIP MAXIMUM PERMISSIBLE EXPOSURE LEVEL
SU:
AB: The sensory irritation potential of a series of saturated and unsaturated aliphatic and cyclic aldehydes was investigated in B6C3F1 and Swiss-Webster mice. With the reflex decrease in respiratory rate as the endpoint response, alpha, beta-unsaturated aliphatic aldehydes yielded RD50 values (concentration which elicits a 50% decrease in respiratory rate) ranging from 1 to 5 ppm while saturated aliphatic aldehydes with two or more carbons produced RD50 values from 750 to 4200 ppm. Cyclic aldehydes produced intermediate RD50 values which ranged from 60 to 400 ppm. No statistically significant differences were found between concentration-response curves of B6C3F1 and Swiss-Webster mice. Saturated aliphatic aldehydes with two or more carbons were nearly 1000 times less potent than formaldehyde. Although the mechanisms responsible for stimulation of trigeminal nerve endings by airborne chemicals are poorly understood, several hypotheses may help to explain the differences seen in this study. For example, the sensory irritation potency of the saturated aliphatic aldehydes diminished with their reported dehydration constants which may determine the degree to which these aldehydes crosslink with receptor proteins. The sensory irritation potency of acrolein and crotonaldehyde was probably due to 1,2 or 1,4 addition reactions. Additionally, molecular conformation and a recently published physical mechanism may contribute to sensory irritation responses, particularly for the less reactive aldehydes. Tentative threshold limit values (TLVs), based upon prevention of sensory irritation, were extrapolated from the RD50 values of Swiss-Webster mice. With the exception of crotonaldehyde, good agreement was found with currently published TLVs.

FUS62

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD55 (S) B23

ALPHA 2-ANTIPLASMIN

Function:

Antiprotease activity in blood clogging

Serum Concentration:

very low, but more efficient than alpha 2-macroglobulin (=) (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

2028916382

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD55 (S) B24

ALPHA-2-MACROGLOBULIN

Most important serum antiprotease

Function:

neutralization of any type of protease (try.- or chym.-type), primary defence.

when all A2M is complexed, blood pressure drops, death

Assay:

serum not suitable, since changes are too small and excess of inhibitor is very high.
better approach: sampling close to inflammatory site (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 198o)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD78 (S) A6 LA (PW) (WS) 2o.Oct.81ä

AMANITIN
========

Toxin von Amanita phalloides (Knollenblätterpilz)
(Lindell, Science 17o: 447, 197o)

Spezifischer Hemmstoff für RNA-Polymerase II. (Eucaryonten),
Polymerase I ist insensitiv (TIBS 2: 1o3, 1977)

yeast is impermeable for the drug

2028916384

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

AMYLASEN

= Stärkeabbauende Enzyme (Glycosidasen). Dieser hydrolytische Abbau ist charakteristisch für Speicherorgane. In den übrigen Zellen verläuft der Stärkeabbau phosphorolytisch (Richter 2o5)

Alpha-Amylase:

spaltet alpha-1,4-glycosidische Bindungen längerer Kettenstücke (6-12 glu - reste - Endoamylase; Überspringen von 1,6 - Bindungen
Vorkommen: bes. in Samen, z.B. Getreidekörnern, auch in Pilzen, Bakt., tier. Speichel und Pankreas (Richter 2o5)
Bildung bei Weizensamen im Scutellum (= umgewandeltes Keimblatt, liegt dem Endosperm an; Strasburger 735), dann Abgabe aus Endosperm (Metzner 76)
MW = 6o ooo, Ca^{2+} = Cofaktor, Globulin-Typ (Richter 355) (Richter 2o5), Cl - auch (Karlson)

Beta-Amylase:

spaltet alpha-1,4-glycosidische Bindung unter Bildung von Maltose Einheiten (Endabbau durch Maltase) = Exoamylase (Angriff vom nicht -red. Ende (Richter 2o6)) keine Verarbeitung von 1,6 - Bindungen
Grenz = dextrine (Metzner 76)
Vorkommen und Bildung im Endosperm von Samen (Metzner 76)
auf Pflanzenreich beschränkt (Richter 2o5), Albumin-Typ (Richter 355)

Stimulation durch Gibberellinsäure:

Enzyminduktion in der Aleuronschicht gequollener Gerstekörner (de novo synthese, Bonner/Vamer S. 76o)
prim. Wirkungsort d. Gibb. unbekannt; Angenommen: Regulation der Transscription durch Derepression. Latenzzeit 7-8 h (Kandeler 26,28)
Ausscheidung ins Endosperm durch Äthylen beschleunigt (Kandeler 38); cAMP induziert Gibb. Biosynth.
Gibberellin kann durch cAMP oder ADP partiell ersetzt werden (Kandeler 42) auch durch Glu und Asp (Kandeler 46)

Isoamylase:

spaltet -1,6-glyc. Bindungen (in höheren Pflanzen nachgewiesen) (Heß 89)

2028916385

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD69 (S) B6 PW (WS) 14.Sep.81

ANAPHYLAKTISCHER SCHOCK

Überempfindlichkeit auf Grund einer Immunreaktion

(a) primärer Schock bei Erstbehandlung
(b) sekundärer Schock bei Zweitbehandlung, forcierte Reaktion (A2/49,1117)

Auslösende Faktoren:

Serum-Transfusion,
Insekten-Stich

Behandlung:

Injektion von o.5-1.o ml Adrenalin (1:1ooo),subkutan (in kritischen Fällen in die Zunge)

Spätere Therapie: Corticoide, in gewöhnlichen Fällen lokal (Salbe)
Urtikaria (= Bläschen, Anhäufung von Mastzellen)
(Med. Monatsspiegel 4/73)

2028916386

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD58 (S) A5

ANAPHYLATOXIN
==========

Functions:

- Chemotoxin of the serum for leucocytes not for macrophages
- contraction of smooth muscle
- lethal shock

MW:

rat: 95oo
guinea pig: 14-15ooo
(Vortrag Wissler, Biochemie Bad Nauheim, Jan. 198o)

2028916387

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD58 (S) B29

ANATOMICAL TERMS
==========

caudal : schwanzwärts

lumbal : zur Lende gehörend

cranial: kopfwärts

lateral: seitlich

2028916388

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

26.Nov.82 GD97 (S) B9 WS

ANEUPLOIDIE

Definition:

numerische Veränderungen des Chromosomensatzes bei Diplonten durch meiot. Genom-Mutationen, z. B. durch Nicht-Trennen eines homologen Chromosomenpaares (non-disjunction). Hierbei entstehen Individuen mit fehlenden oder überzähligen Chromosomen. Typ. Beispiel einer A. ist die Trisomie 21 des Mongolismus (Langdon Down Syndrom) (Reallexikon der Medizin).

2028916389

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ANOXIA

Pyruvate:

fast and marked increase in serum (Passonneau, J.V., Lowry, O.H., in: Methoden der enzymatischen Analyse, Vol. 2, 1974, p. 15o1)

creatine phosphate and ATP protect isolated guinea pig cardiac muscle against acute anoxia (Parrat and Mashall, J. Pharmacol. 26 : 427, 1974)

glucose uptake (due to accelerated transport) and phosphorylation (due to decrease in apparent k_m) in perfused rat heart stimulated, water content and extracellular volume increased

Definition:

In contrast to ischemia perfusion of tissue, therefore metabolites removed continuously. Due to dilation sometimes more perfusion than under normoxia.

2028916390

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ANTHELMINTICS

Definition:

substances directed against worms

Properties:

mostly limited spectrum of effects, development of resistance not observed

Mechanism:

(1) neuromuscular action
(2) worm enzyme inhibition

Examples:

see (Allgemeine und spezielle Pharmakologie und Toxikologie (Forth, W. Hemschler, D. und Rummel, W. (Hrsg.) Bibliographisches Institut Mannheim/Wien/Zürich: 548-551)+

dichlorvos (Wooder et al., Chem. Biol. Interactions, 19: 25, 1977)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ANTIKÖRPERNACHWEISMETHODEN

Prinzip:

Nachweis durch Wechselwirkung mit Antigenen (Ag)
Zusammentreten von komplementären Antikörper (Ab) u. Ag zu präzipitierenden Ab-Ag-Komplexen

Methoden:

(1) Agar-Diffusionstest nach Ouchterlony - Präzipitationslinien
(2) Immunelektrophorese nach Graber
(3) Hämolyt.- Plaque-Test nach Jerne

2028916392

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ANTILEUCOPROTEASE

= bronchus mucus inhibitor
Chemically identical with HUSI 1 (human seminal inh.) and CUSI 1 (cervix uteri secr. inh.) (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

Function:

protection of cilia against protease activity (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

Specificity:

inh. of granulocyte elastase and cathepsin G, no effect on collagenase (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

Plasma Concentration:

very low, fast renal excretion because of low MW, labile in urine (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

Physicochem. Properties:

MW: 11000
IEP: 9.5
(Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

strong affinity to heparin

Source:

in bronchus: serous part of submucousal glands (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

2028916393

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ANTIOXIDANTS
==========

ethoxyquin
butylated hydroxytoluene
butylated hydroxy-anisole

Effects on Drug Metabolizing (Cyt. P-450) + System:

induction of (1) monooxygenase (type 1)
(2) glucuronosyl transferase (type 1 and 2)
(3) epoxide hydrase (nuclear and cytoplasmic)
(4) GSH-transferase

induction of (3) more than (1), de novo synthesis

reduction of carcinogenicity possibly due to greater induction of phase 2 than phase 1 activity (Kahl, R., Naunyn-Schmiedeberg's Arch. Pharmacol. 313 S: R3/12, 1980)+

Occurence:

highest conc. in dried potato products, chewing gum (Kahl, R., Naunyn-Schmiedeberg's Arch. Pharmacol. 313 S: R3/12, 1980)+

2028916394

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD55 (S) B25

ANTITHROMBIN 3
==========

Function:

antiprotease action against clogging proteases, more efficient than alpha-2-macroglobulin (=) (Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

Assay:

(1) chromogenic assay
(2) EIA (= electro immuno assay, rochet electrophoresis)
(Laurell, C.-B., plenary lec., Congr. Scand. Ger. Soc. Clin. Chem., Hamburg, Oct. 1980)

202891639

Source: https://www.industrydocuments.ucsf.edu/docs/fjdl0000

ARTHROSE

Degenerative Gelenkerkrankungen und Weichteilrheumatismus

Allgemeines ▶ Ätiologie und Pathogenese

Kennzeichen der degenerativen Gelenkprozesse ist eine primäre Läsion des Knorpels (entzündliche Prozesse beginnen an der Synovialis). Analoge Knorpelveränderungen betreffen die Wirbelsäule (Faserknorpel und Nucleus pulposus der Bandscheiben) und die Knorpelinseln an der Verankerungsstelle der Sehnenfasern im Knochen. Ursachen der Knorpelschädigung: Mechanische Belastung, Alterungsvorgänge, erbliche Faktoren (Heberden-Arthrose).

Pathologische Anatomie

Charakteristisch ist das Nebeneinander von Knorpeldegeneration und reaktiver Hyperthrophie von Knorpel, Knochen und Synovialis. Die klinischen Ausfallserscheinungen gehen dem Ausmaß der degenerativen Veränderungen nicht parallel. Schmerzen entstehen nicht im Knochen selbst, sondern durch die sekundäre Beeinträchtigung des Halteapparates (Kapseln, Bänder, Sehnen, Muskeln).

Arthrosen ▶ Definition

Synonyma: Osteoarthritis, Osteoarthronosen. Degenerative Erkrankungen der peripheren Gelenke.

Klinik

Lokalisation: Neben den Erkrankungen der großen Gelenke (Coxarthrose, Omarthrose, Gonarthrose) gibt es eine genetisch bedingte Polyarthrose (Heberdensche Arthrose) mit Befall folgender Gelenke: distale Fingergelenke, Großzehengrundgelenke, 1. Carpometacarpalgelenk, selten der Kniegelenke und apophysären Gelenke der Hals- und Lendenwirbelsäule. Im Gegensatz zur rheumatoiden Arthritis (mit Befall der proximalen Fingergelenke und Handwurzeln) haben die Patienten normale Blutsenkung und negative Rheumafaktor-Tests.

Röntgenbefunde: Gelenkspaltverschmälerung, subchondrale Sklerose (Eburnisation), osteophytäre Sporne und Wülste am Gelenkflächenrand.

Symptome: Belastungs- und Ruheschmerz, Funktionseinschränkung. Entzündliche Gelenkreizungen durch abgeschilferten Knorpel. Überlastungshartspann gelenknaher Muskeln und degenerative Schäden an Bändern und Sehnen; sekundäre Osteoporose. Durch Gelenkumbau entstehen Deformierungen mit Fehlstellungen und Bewegungseinschränkung. Einzelheiten sind in orthopädischen Lehrbüchern nachzulesen.

Therapie

Verminderung der Gelenkbeanspruchung (Arbeitsplatzwechsel, Gewichtsreduktion), Analgetica (Amuno, Salicylate etc.), bei akuter Reizung lokale Hydrocortisoninjektion, physikalische Maßnahmen (Wickel, Packungen, Thermal-, Dampf-, Heißluftbäder, Kurzwelle, Röntgenbestrahlung), Bindegewebsmassagen, chirurgisch-orthopädische Eingriffe.

(Pieper, W., Innere Medizin, pp. 470, Heidelberger Taschenbücher Nr. 122, Springer Verlag, 1974)

2028916396

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

Arthrosis deformans, Arthrose: Degenerative Gelenkerkrankung, entsteht vorwiegend aus Mißverhältnis zwischen Beanspruchung u. Beschaffenheit bzw. Leistungsfähigkeit der einzelnen Gelenkanteile u. -gewebe (Form-Funktionsproblem!); Faktor der **individuellen Gewebsqualität** spez. des Bindegewebes (Fibrillen, Grundsubstanz) von entscheidender Wichtigkeit; Bedeutung der Funktionstüchtigkeit der Gelenkkapsel als Produzentin der Synovialflüssigkeit, durch welche die oberflächlichen Knorpelschichten (mittels Diffusion) ernährt werden; fraglich primäre od. sekundäre Bedeutung von Durchblutungsstörungen der Gelenkkapsel u. des Knochenmarkes (An- bzw. Hypoxämie durch arterielle Mangeldurchblutung nach Trueta; asphyktische Hypoxämie durch venöse Stauung nach Rutishauser); bes. Ätiologie, aber auch Pathogenese noch umstritten, offensichtlich sehr komplexes Geschehen!

Pathogenet. Einteilung (nach Debrunner): I. **Primäre Formen:** Abnützungsschäden bei langdauernden Störungen der Leistungsbeanspruchungsbilanz: a) **Direkte** Überbeanspruchungsschäden (Schwerarbeit, Sport, hohes Körpergewicht); b) **Indirekte** Überbeanspruchungsschäden (Verminderung der Leistungsfähigkeit der og. bradytrophen Gewebe durch endogene Störungen: Alterung, Stoffwechselveränderungen. II. **Sekundäre Formen:** a) **Aus kongenital** od. kongenital verankerten dysplastischen Zuständen: 1. Flache Pfannenbildung (Coxa valga luxans); 2. Subluxationen (Hüfte, Knie); 3. Luxationen (verschiedene Gelenke, namentlich Hüfte); 4. Folgezustände nach Wachstumsstörungen im Epiphysenbereich (Osteochondrosis deformans juvenilis coxae (Perthes), O. def. juvenilis, vertebrae (Scheuermann) u. ä.; Osteochondrosis dissecans, Epiphysiolysen). b) **Aus erworbenen** Gelenkdeformierungen: 1. Folgezustände entzündlicher Gelenkkrankheiten; 2. nach rheumatischem Gelenkleiden; 3. nach Gelenktraumen; 4. Folgezustände aus Verschiebungen d. Gelenkachsen (Skoliosen, Beckenschrägstand, Coxa vara, X-Bein, Knickfuß, Plattfuß); 5. Folgezustände chron., nicht entzündlicher Gelenkerkrankungen (**Arthropathien***).

Pathol. Anatomie: Auffaserung, Demarkierung der Knorpelsubstanz, Hyalinisierung, Abschliff bis zum vollständigen Aufrieb; im subchondralen Knochengewebe Sklerosierungen u. Zystenbildungen; reaktive osteophytäre Wucherungen, degenerative Kapselveränderungen (Atrophien, Hyalinose, obliterierende Gefäßprozesse). **Rö.:** Gelenkspaltverschmälerung, Inkongruenz der Gelenkflächen, Sklerosierungen, Zystenbildungen, Randwülste. **Klin. Sympt.:** Schmerzhafte Bewegungseinschränkung, Krepitation, muskuläre Atrophie, Kontrakturen, intra- u. paraartikuläre Reizzustände u. Ergüsse.

Arthrosis mutilans: Arthritis* mutilans.

(Psychiatrie, klin. Wörterbuch, pp. 85, De Gruyter, 1977)

Arthrose, Arthrosis: degenerative – nicht entzündl. – Gelenkerkrankung. – s.a. Koxarthrose, Gonarthrose.
e: arthrosis; *f:* arthrose (f.).

Arthrosis deformans, Arthritis deformans, Arthronosis deformans, Arthropathia deformans, Osteoarthritis deformans, Osteoarthronosis deformans, Osteoarthrosis deformans: degenerative, chron. verlaufende, schmerzhafte Gelenkerkrankung, die aus dem Mißverhältnis von Tragfähigkeit u. Belastung aufgrund angeborener (Dysplasie) oder erworbener (innersekretor. Störung, postarthrit., posttraumat.) Minderwertigkeit des Knorpels u. Gelenks sowie infolge Fehlbelastung (gestörte Statik, Deformität usw.) entsteht. Path.-anat. Erweichung u. Auffaserung des Gelenkknorpels, subchondrale Verdickung, Neubildung von Spongiosa (evtl. schwere Gelenkdeformierung).
e: hypertrophic degenerative arthritis; *f:* arthrose (f.) déformante.

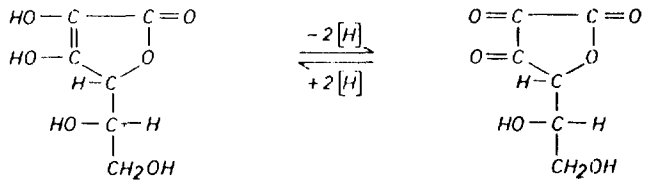
(Roche Lexikon d. Medizin, A 313, Urban u. Schwarzenberg)

2028916397

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ASCORBINSÄURE (VITAMIN C) (1)

Chemische Charakterisierung:



L-Ascorbinsäure L-Dehydro-ascorbinsäure

Lacton der 2-Keto-L-Gulonsre. Enthält En-diol-gruppierung, die den reduzierenden Charakter verursacht. Durch Abgabe von Wasserstoff geht sie in Dehydro-Ascorbinsäure über (reversibel).

Vitamin:

antiskorbutisches Vitamin beim Menschen, Meerschweinchen (Ausnahme bei den Nicht-Primaten-Säugetieren), nicht bei der Ratte

Skorbut (= scurvy): Kapillarschädigung verursacht Blutungen, Zahnfleisch-Entzündung

Vorkommen:

NNR besonders reich an Ascorbinsäure (D1/347)

Beteiligung an enzymatischen Reaktionen:

Dopaminhydroxylierung	(Noradrenalin)
Steroidhydroxylierung	(Hydroxysteroid)
Folsre.-Hydrierung	(Tetrahydrofolsre.)
Fe3+ - Ferritinreduktion	(Fe2+-chelat)
Prolinhydroxylierung	(OH-Pro) (Collagen)
pOH-Phenylpyruvathydroxylierung	(Tyrosin-Stoffwechsel)

Therapeutischer Einsatz:

Neutralisation von Nitrit in Fleisch reduziert den Gehalt an Nitrosaminen
(CaD, p. 100)

aktives Gegengift gegen Hg-Salze bei Ratten
(Med. Monatsspiegel 4: 100 (1973))

2028916398

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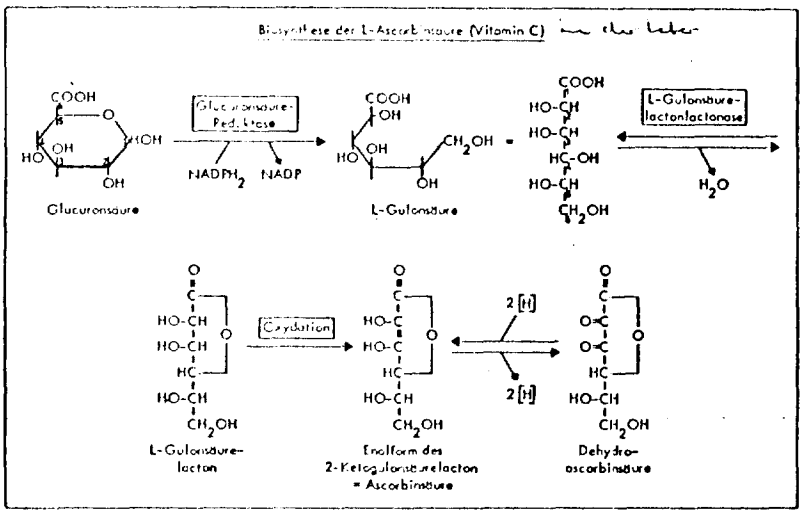
ASCORBINSÄURE (VITAMIN C) (2)

Metabolism:



Teratogenicity:

deficiency teratogenic in animal models
(CaD, p. 168)

Toxicity:

production of Heinz bodies
(CaD, p. 239)

mutagenic in Ames assay
(Galloway et al., Mutat. Res. 60 : 321-327 (1979))

induces SCE
(Stich et al., Nature 260 : 722-724 (1976))

damages DNA
(Morgan et al., Nucleic Acids 3 : 1139-1149 (1976), Woolley et al., Carcinogenesis 8 : 1657-1662 (1987))

concentrations .GT.0.5 mmol/l increases SSB caused by MNU (gp)
(Woolley et al., Carcinogenesis 8 : 1657-1662 (1987))

2028916399

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ASPARTAT-TRANSCARBAMYLASE

6x cartalytic subunits, organized as trimers = $2xC_3$
6x regulatory subunits, organized as dimers = $3xR_2$ (E.coli)

At protein conc. of several mg/ml, the association of C and R, as measured by spectral changes in stopped flow experiments, is completed within seconds.
ug/ml 3o min for assembly

Method:
Mixing e.g. 125J-lab. C with excess R, followed by "stopping" at various times with unlabelled C. Various species investigated by eletrophoresis

Two intermediates identified:
(1) Stable enzyme, lacking one R - when excess C
(2) transiently stable enzyme, lacking one C - when excess R

Assembly from subunits occurs in seconds at conc. equivalent to those that would exist in vivo even if there were only one enzyme molecule per cell ($1o^{-7}$ M) - not the rate limiting process in enzyme synthesis (Wk 119o)

Regulation:

Maximally inhibited by UMP (not CTP as in E.coli) (plant)
(Wk 1174)

Structure:

purification to homogeneity from mung bean seedlings (8ox) (plant)
Mr = 128 ooo (Wk 1174)

Kinetics:

2 pH-optima:
8.o, 1o.2 (dependent on Asp-conc.)
temperature-optima: 55 degrees centigrade (plant)

→ MM-kinetics with Asp, sigmoidal with carbamyl phosphate, (homotropic) at both pH-optima
pCmp ↗ desensitization and dissociation in 2 different components, n(Hill) = 2, indicating negative heterotropic interactions (Wk 1174)

2028916400

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD78 (S) A11 LA (WS) 14.Sep.81

ASPARTOKINASE
==========

Startreaktion der Biosynthese von Lysin, Threonin, Methionin und Isoleucin aus Aspartat.

Asp ⟶ Asp-(P)

3 Isoenzyme mit unterschiedlicher Endprodukt-Regulation durch Repression und Hemmung der Aktivität. (Hess 222) (siehe Asp-Metabolismus) in E.coli.

Thr + Lys: additiven Hemmung
Isoenzym 2 trägt neben der Aspartokinase auch noch Homoserin-Dehydrogenase-Akt. (Clarke, Vorlesung 14/2/73)

Rhodospirillium capsulata scheint nur über eine Asp-kinase zu verfügen (Datta, Science 165: 556, 1969)

Jenson, J. Bact. 94: 1582 (1967)

2028916401

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

ATP

Stability:

plasma contains enzymes, that degrade ATP (Jorgensen, Acta Pharmacol. Toxicol. 12 : 294, 1956)

degradation inhibited by 5 mmol/l EDTA (Holmsen et al., Anal. Biochem. 17 : 456, 1966)

blood collected in heparin or EDTA: not stable, even as TCA 86 o/o) supernatant (a) acid-citrate-dextrose: .GT.24h at 4 degrees centigrade acid-citrate-dextrose-TCA-supernatant: stable for 6 weeks at -2o degrees Centigrade

aqueous solutions: store at .LT. o degrees centigrade (Sigma Chemicals, Techn. Bull. 366, 1977)

solid form, high purity: disproportionation to di- and tetraphosphates, 1 to 2 o/o diphosphate per day at RT.

optimal storage: -8o degrees centigrade, very little disproportionation during 6 month (P.L Analects 9, 1981, Firmenjournal)

Assay:

HPLC, ion-pair, reversed phase, det. within 1o min, 98 o/o recovery, perchloric acid muscle extracts, detection limit: 3x1oE-6 M, UV-detection (Juengling, E., Kammermeier, H., Anal. Biochem. 1o2: 358-361, 198o)

Recovery:

93 to 97 o/o at 3oo to 45o mmol ATP/l blood (Sigma Chemicals, Techn. Bull. 366, 1977)

Normal range in human blood:

38o to 62o mmol/l
3.7 to 4.5 mmol/g Hb
Sigma Chemicals, Techn. Bull. 366, 1977)

Smoking:

decreased blood ATGP observed in heavy smokers (Sagone et al., Blood 38: 826, 1971)

(a) 3o o/o loss in 2 weeks - 2o degrees centigrade
5 o/o loss in 24h - 2o degrees centigrade

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD27 (S) A13 (PW)

AZASERINE

o-diazoacetyl-L-serine

Pharmacology:

antineoplastic activity
(Brambilla et al., J. Cancer Res. Clin. Oncol. 94: 7-2o, 1979+)

Cytoxicity:

although carrying a potential alkylating group mechanism = irreversible anti-metabolic activity for glutamine utilization in purine biosynthesis. (Brambilla et al., J. Cancer Res. Clin. Oncol. 94: 7-2o, 1979+)

Genotoxicity

in vivo induction of single standard breaks in DNA (Brambilla et al., J. Cancer Res. Clin. Oncol. 94: 7-2o, 1979+)

Mutagenicity

direct mutagen to TA 1535, TA 1536, TA 1537 and TA 1538 (Brambilla et al., J. Cancer Res. Clin. Oncol. 94: 7-2o, 1979+)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD57 (S) B27

AZULEN
======

Pharmakologie:

Wirkstoff der echten Kamille, auch als Cham-Azulen bezeichnet.
- Antiphlogisticum
- Spasmolyticum

(Gessner, O. in: Die Gift- und Arzneipflanzen von Mitteleuropa, 2. Auflage, Heidelberg: C. Winter Universitätsverlag, 1953, S. 415)+

2028916404

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

2028916405

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

BARBITURATES
==========

Side Effects:

Severe attacks provoked in porphyria patients (Genetic damage in man caused by environ. agents, K. Berg (ed.), 1979)

Actions on Plants (Alternative Testing System):

removal of apical dominance in lateral root formation, induction of lateral and adventitiouns root formation in lettuce seedlings (Dr. H.A. Kordan, Univ. Birmingham, Plant Biol.)

2028916406

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD61 (S) B21

BASAL CELLS
==========

Respiratory Ephitelium:

metabolically inactive, big nucleus; stem cell for other resp. epithelial cells (Reznik-Schüller, H.M., "Wissenschaftliches Kolloquium", Aug. 21, 198o)

2028916407

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

14.Jun.82 GD97 (S) A12 WS

BASEMENT MEMBRANE

Composition:

Collagen plus glycoproteins forming an insoluble amorphous matrix (Sheela, S. and Barrett, J.C., In vitro degradation of radiolabelled, intact basement membrane mediated by cellular plasminogen activator, Carcinogenesis 3: 363-369, 1982+).

Method of Isolation:

from lung: (hm)
(Sheela, S. and Barrett, J.C., In vitro degradation of radiolabelled, intact basement membrane mediated by cellular plasminogen activator, Carcinogenesis 3: 363-369, 1982+)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD27 (S) B4 (PW)

BENZANTHRACENE:
==========

Radioact.-Labelled BA:

12-14C-Benz(a)anthracene (Amersham CFA.158)

Carcinogenicity:

weak

Ultimate carcinogens:

Baa-3,4-dihydrodiiol-1,2-epoxid

2028916409

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD56 (S) B18

7,8-BENZOFLAVONE
==========

Induction of Epidermal AHM:

dermal appl.: slight inhibition
i. p. appl.: inhibition (Slaga et al., Carcinogenesis 1: 127-137, 1976)
induction observed by Gelboin (Science 17o: 169, 197o)

Effect on Tumor Initiation:

inhibition of DMBA initiation (Kinoshita, Gelboin, Cancer Res. 33: 1937, 1972) and 3-MC initiation (Slaga et al., Carcinogenesis 1: 127-137, 1976) after dermal application

Effect on Adduct Formation:

binding of DMBA to DNA, RNA and protein inhibited (Kinoshita, Gelboin, Cancer Res. 33: 1937, 1972)

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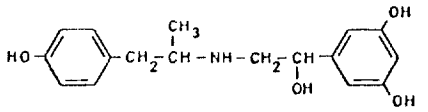
Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD56 (S) A1

FENOTEROL

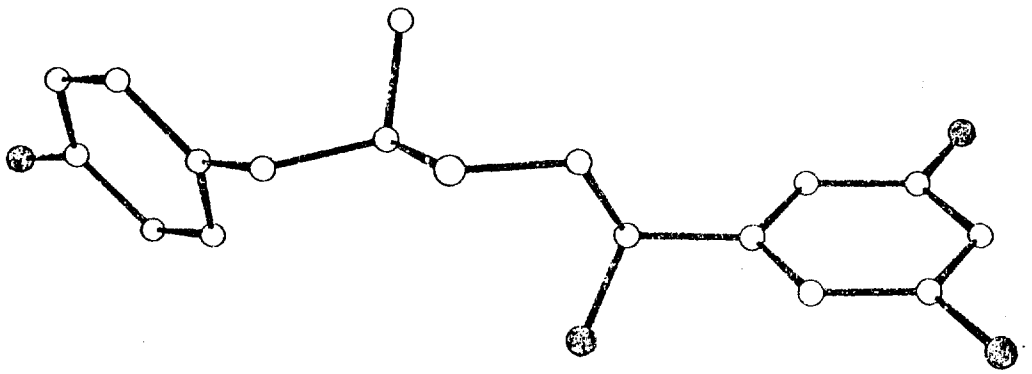
$C_{17}H_{21}NO_4.HBr$



BEROTEC
=======

Synonyma:

Feneterol



Structural - Despite the substitution of one of the methyl groups in the parent compound by a p-hydroxybenzyl group, the common moiety of the two molecules adopts a conformation which is virtually identical[1].

Pharmacological - Fenoterol is a selective β-adrenergic receptor stimulant[2]. *In vitro*, the potency in relaxing guinea pig trachea is comparable to that of salbutamol[3]. Orally, fenoterol produces significant bronchodilatation with a rapid onset and long duration of action[4,5]. The RR(SS) racemic mixture is nine to twenty times more active than the RS(SR) mixture[1].

1. Beale, J.P. (1972) Cryst.Struct.Commun., 1, 67.
2. O'Donnell, S.R. (1970) Eur.J.Pharmacol., 12, 35.
3. Giles, R.E., Williams, J.C. and Finkel, M.P. (1973) J.Pharmacol. Exp.Ther., 186, 472.
4. Geumei, A.M., Miller, W.F., Miller, J. and Gast, L.R. (1976) Chest, 70, 460.
5. Heel, R.H., Brogden, R.N., Speight, T.M. and Avery, G.S. (1978) Drugs, 15, 3.

2028916411

(Tollenaere, J.P. et al. (Eds.): Atlas of the three-dimensional structure of drugs, Amsterdam, New York, Oxford: Elsevier/North -Holland Biomedical Press, 1979, p. 88)+

Bloodborne adrenaline (analogue) affects alveolar capillary endothelial cells (type 1) (# Wang et al., Am. J. Pathol. 62: 251, 1971)

application for # FDA acceptance (NDA), Boehringer Ingelheim (US), long-lasting bronchial dilatator

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

14.Jun.82 GD97 (S) A8 WS

BETA-BLOCKER
==========

Action on Heart:

Inhibition of exogeneously but not ischemia-stimulated release of catecholamines from the heart (Dr. Schrör, pers. communic., May 82)

2028916412

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD57 (S) B11

BETA GLOBULIN
==========

Serum Concentration:

increases with age but decreases with tonsillectomy of white women (Wingerd, J., Sponzilli, E.E., Clin. Chem. 23: 131o-1317, 1977)+

2028916413

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD59 (S) A28

BIOGENE AMINES
==========

HPLC:

Histamine: derivation: o-Phtaldialdehyde, 2 min reaction, 3o cm MicroPak CN, 5o mmol/l phosphate buffer/ methanol 5o/5o, 1 ml/min

(B. Vonach, Labor Praxis 5: 24, 1981)

2028916414

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

BODY WEIGHT
==========

Body Water:

Linear decrease of proportion of body water with BW (= age), CD strain, females: 5 to 7 month: 59 0/0 of total body mass, 24 to 26 month: 46 0/0. Change mainly due to fat increase (York, J.L., Body water content, ethanol pharmacokinetics, and the responsiveness to ethanol in young and old rats, Dev. Pharmacol. Ther. 4 : 106-116 (1982)+) (rt)

Lack of Correlation to Toxicity:

The toxic effects of cadmium compounds (mortality) could not be demonstrated on the basis of the BW (Oldiges and Glaser, presentation at Satellite Symposium to International Congress of Toxicology, Tokio, 1986) (rt)

2028916415

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD78 (S) A1o LA (PW) 3.Aug.81

BRADYKININ

Chemie und Struktur:

$alpha_2$-Globulin, 9 AS; Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg-OH
(Boissonas 196o)
Immunologie und biolog. Aktivität von Ala-substituierten Derivaten:
siehe D1o/65

Wirkung:

Kontraktion glatter Muskeln, Gefässerweiterung.
Deutlichster Effekt: Verringerung der Herzfrequenz (Fasold S.16)

Bildung:

aus pankreatischem Kallikrein durch limitierte Proteolyse von Trypsin

Entdeckung:

Rocha e Silva, M., 1949

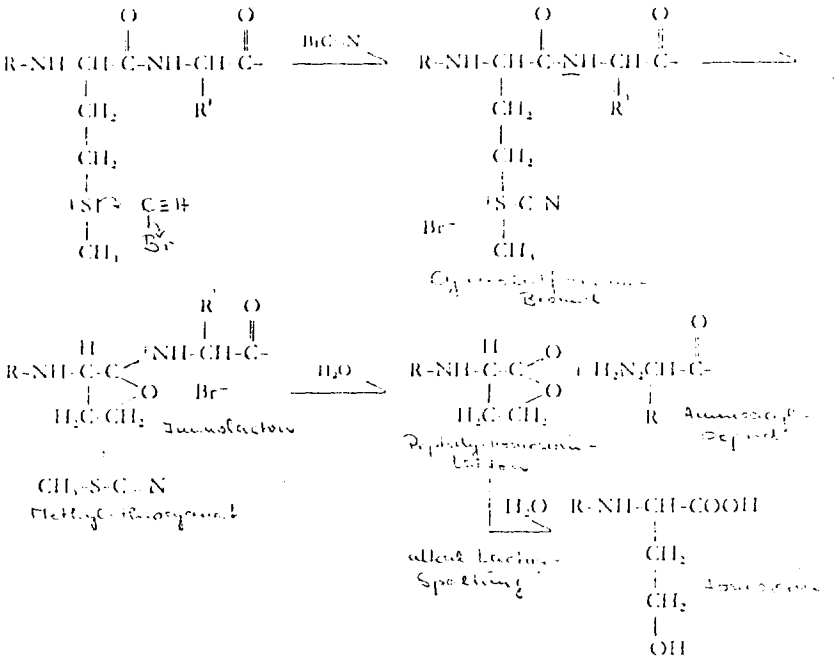
2028916416

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

BROMCYAN-SPALTUNG (Cyanogen bromide cleavage)

Spaltung von Thioäthern, Methode zur Auftrennung von Polypeptiden in kleinere Bruchstücke

Reaktionsmechanismus:



Darst. von Bromcyan: $NaCN+Br_2$

Bed. der Reaktion: Spez. Spaltung von Peptidbindungen am Methionin. - zumal in saurem Medium

- Nebenreaktionen: Reaktion auch mit S-Carboxymethylcystein, SH-gruppen sollten grundsätzlich geschütz (benzyliert) werden.
- Sulfon und Sulfoxid kehren die Reaktion um.
- Lacton kann in Homoserin durch alkal. Lactonspaltung umgewandelt werden einheitl. Produkt.
- Lagerung der Spaltprodukte nur nach Lyophilisation. (Meth. in Enz.)
- Denaturierung des Enzyms erhöht die Reaktionsrate (Edmunson)

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BROMCYAN-SPALTUNG (Cyanogen bromide cleavage) (2)

Als Säuren werden verwendet: o.1 N HCl
7o o/o Ameisensre. (löst Prot. besser)
Trifluoressigsre.

MG_{BrCN} = 1o6

Cyt.c-Spaltung: siehe W25

BrCN: Dämpfe sehr giftig, hautreizend, tränenreizend flüchtig bei ZT; Fp 52 Grad Celsius, Kp 61-62 Grad Celsius, Gegenmittel: $NaNO_2$, $Na_2S_2O_3$

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GD59 (S) A2

BROMDEOXIURIDINE

Properties:

toxic, mutagen, carcinogen

Biol. Half-Life:

4o min

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

-> Daten/Informationen

Eingegangen:
22. April 1983

biologics

Hoechst Dyes 2495, 33258, 33342

Hoechst Dye 2495

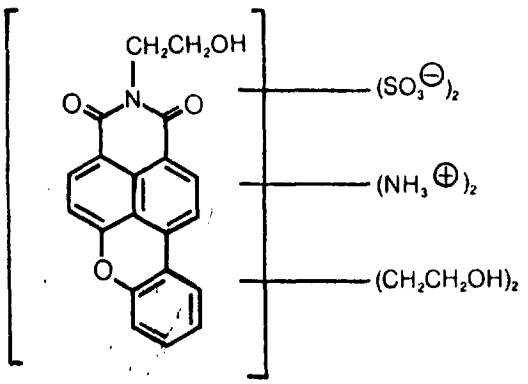
Biochemical Significance

Hoechst Dye No. 2495 has been used as fluorometric stain which provides a simple, versatile, method which is independent of external influences giving rise to a quantitative *in situ* ultra sensitive micro-scale method for determining protein.

Chemical Name

Benzoxanthene Gelb H2495 Fluorochrom;
HOE 2495-40/70;
Hoechst 2495

Structure



Empirical Formula

$C_{24}H_{29}N_3O_{12}S_2$

Molecular Weight

615.6

Solubility

Hoechst Dye No. 2495 is totally soluble in water at 0.2 grams per 10 ml affording a clear solution that is orange in color which upon dilution has a pH of 7.9

Purity

Hoechst Dye No. 2495 has a purity of greater than 99% by HPLC although it contains approximately 4.0% water by weight.

Ordering Information

Hoechst Dye 2495
Cat. No. 382057
•Sizes Available: 500 mg

Hoechst Dye No. 33258 (Bisbenzimide)

Biochemical Significance

Hoechst Dye No. 33258 is useful as a fluorescence stain for chromosomes. This staining property is attributed to the ability of bisbenzimide to bind with DNA structures. As can be seen from the attached list of references this compound is gaining increasing importance as a general tool for cytogenetic studies. Hoechst Dye No. 33258 may also be used to detect mycoplasma contamination in tissue cultures.

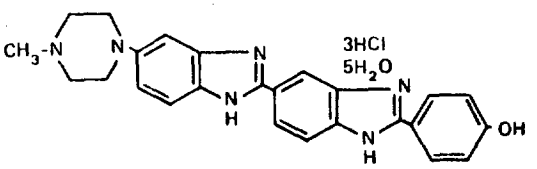
Chemical Name

[2-[2-(4-Hydroxyphenyl)-6-benzimidazolyl]-6-(1-methyl-4-piperazyl)benzimidazole, trihydrochloride, pentahydrate];
Phenol, 4[5-(4-methyl-1-piperazinyl) [2,5'-bi-1H-benzimadazoyl]-2'-yl], trihydrochloride, pentahydrate

Physical Properties

Appearance
Yellow powder.

Structure



CALBIOCHEM-BEHRING CORP.
La Jolla, CA 92037
REG. TM HOECHST AG

For additional information, please write Biochemical Marketing, Calbiochem-Behring Corp., P.O. Box 12087, San Diego, CA 92112.

Doc No 8141-1181

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biologics

Hoechst Dyes

Empirical Formula
$C_{25}H_{37}N_6O_6$

Molecular Weight
624.0

Solubility
Hoechst Dye 33258 is totally soluble in water at 0.2 grams per 10 ml which upon dilution has a pH of 1.7. However, it has also been observed that this material will precipitate from phosphate buffer solutions.

Quantitative Determination
Dye concentrations can be determined by measuring the optical density of solutions to 0.1 M sodium chloride, 0.005 M HEPES buffer, pH 7.0. The molar extinction coefficient under these conditions is $4.2 \times 10^4\ M^{-1}\ cm^{-1}$ at 338 nm.

Handling

Stability
Light sensitive. Aqueous solutions are stable in solutions for up to two weeks at one milligram per milliliter if kept in the dark at 0-5 C.

Storage
Cool and dry protected from light (desiccated at +4 °C in the dark).

Toxicity

Dye is generally non-toxic to cells; the combination of dye plus light is also non-toxic to cells unless the cells have incorporated 5-bromodeoxyuridine.

Caution: Skin contact and mouth pipetting of this material should be discouraged due to its somewhat toxic nature. This material has been found to induce sister chromatid exchanges in cultured mammalian cells and thus must be suspected of having mutagen-carcinogen potential.

Ordering Information

Hoechst Dye 33258
(Bisbenzimide)
Cat. No. 282061
Sizes Available: 250 mg
1 gm

Hoechst Dye No. 33342 (Bisbenzimide)

Biochemical Significance

Hoechst Dye No. 33342 has been used by Preisler [*Cancer Treatment Reports*, **62**, 1393 (1978)] to study the interaction of the chemotherapeutic agent adriamycin with human cells due to the sensitive binding that occurs between the supravital dye and human leukemic cells. This dye also has been shown to reversibly bind to the DNA of Friend erythroleukemia cells and to interact with human hematopoietic cells.

Lalande, et al., (Proc. Natl. Acad. Sci., **78**, 363 (1981)) have recently developed a simple and rapid method for measuring membrane transport rates in mammalian cells and identifying cellular subpopulations that differ in their membrane transport rates via flow cytometric analysis of the uptake of the DNA sp. in the presence of the fluorescent probe Hoechst Dye No. 33342.

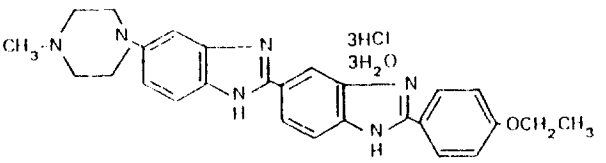
Chemical Name

2',5'-Bi-1H-benzimidazole, 2'-(4-ethoxyphenyl)-5-(4-methyl-1 piperazinyl), trihydrochloride, trihydrate

Physical Properties

Appearance
Yellow powder.

Chemical Structure



Empirical Formula
$C_{27}H_{37}N_6O_4Cl_3$

Molecular Weight
615.9

Solubility
Hoechst Dye 33342 is totally soluble in water at 0.2 grams per 10 ml which upon dilution has a pH of 1.9. However, it has been observed that this material will precipitate from phosphate buffer solutions.

Handling

Stability
Light sensitive. Aqueous solutions are stable in solution for up to two weeks at one milligram per milliliter if kept in the dark at 0-5°C.

Storage
Cool and dry protected from light (desiccated at +4 °C in the dark)

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Toxicity

This dye is generally non-toxic to cells; the combination of the dye plus light is also non toxic to cells unless cells have incorporated 5 bromo deoxyuridine.

Ordering Information

Hoechst Dye 33342
(Bisbenzimide)
Cat. No. 382065
Sizes Available: 250 mg
1 gm

Partial Bibliography Hoechst Dye 2495

"A simple, versatile and volume-independent method for quantitative protein determination which is independent of other external influences," V. Neuhoff, H.G. Zimmer and S. Mesecke, *Hoppe-Seyler's Z. Physiol. Chem.*, **360**, 1657 (1979).

Partial Bibliography Hoechst Dye 33258

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"Interactions of heteroaromatic compounds with nucleic acids; a specific non-intercalating DNA Ligands," W. Mueller and R. Gautier, *Eur. J. Biochem.*, **54**, 385 (1975).

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GD58 (S) B16

GD78 (S) A18 (LA) 27.May.81

BRONCHIAL EPITHELIUM
==========

Brush Cells (= Type 3 Pneumocytes):

not observed in terminal bronchioles (Azoulay, E. et al., Bull. europ. Physiopath. resp., 14: 311-325, 1978+) (rt)

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GD58 (S) B16

BRONCHIEKTASEN
==========

Irrev. Erweiterung der Bronchialäste:
25 o/o angeboren,
erworbene: durch frühkindliche Erkrankungen wie Masern, Keuchhusten u.ä.

Symptome:

schleimiges oder eitriges Sputum, selten mit Blut, Husten, Fieberschübe, bisweilen auch symptomlos. (Pschyrembel S. 171)

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BROWN ADIPOSE TISSUE

Occurence:

mammals at newborn state (including man), hibernating species (adults) (hu)

5 o/o of BW of newborn, concentrated around neck and between shoulder blades. Brown colour due to mitochondrial cytochromes (?). (rb)
Small amounts in shoulder blade region during adulthood (Dawkins, M.J.R. and Hull, D., Scientific American, Vol. 213, No.2: 62-67 August 1965+). (rt)

Morphology:

small fat droplets (instead of 1 big drop in white adipose), relatively more cytoplasm and very high number of mitochondrial (Dawkins, M.J.R. and Hull, D., Scientific American, Vol. 213, No.2: 62-67 August 1965+)

Function:

production of heat at low ambient temperatures, e.g. after birth (Dawkins, M.J.R. and Hull, D., Scientific American, Vol. 213, No.2: 62-67 August 1965+)

Mechanism:

temperature center (hypothalamus) relays impulses along sympathetic nerves

release of noradrenalin at brown tissue nerve endings, activation of lipase, release of glycerol into circulation, fatty acids activated with CoA on the expense of ATP, regeneration of ATP via beta-oxidation, resynthesis of triglycerides from main amount of Acyl-CoA (Dawkins, M.J.R. and Hull, D., Scientific American, Vol. 213, No.2: 62-67 August 1965+)

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CADAVERINE (1)

Determination:

HPLC: cf. POLYAMINES

Extraction from Epidermis and Determination:

homogenization of pooled epidermis (4 mice) in o.2 mol/l perchloric acid acc. to Inoue and Mizutani (Anal. Biochem. 56: 4o8, 1973), chromatography of extract on Dowex AG 5o W, dansylation, TLC, assay by fluorescence (exi: 36o nm, emi: 5oo nm) (Marks, F. et al., Cancer Research 39: 4183-4188, 1979+)

Content of Biological Samples:

urine: 4,o.5 and 2 nmol/ml putrescine, cadaverine or spermidine (hu)
serum: o.2, o.o2 and o.2 nmol/ml putrescine, cadaverine or spermidine (hu)

liver: 6, o, 1ooo and 6oo nmol/g WW putrescine, cadaverine, spermidine and spermine (Samejima et al., Anal. Biochem. 76: 392-406, 1976+) (rt)

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CALCIUM

Intestinal Absorption:

2-step process, 1st step faster, therefore accumulation in mucosa cells, vitamin D required for both steps.

Lack of vitamin D causes rickets (impaired absorption causing low calcium serum level causing parathormone to release calcium from bone causing osteomalacia).

Functions:

smooth muscle contraction (e. g. vas deferens)
insulin secretion
blood coagulation

Mediator:

calmodulin (Mr: 17000, occurence in most cells): assumes more helical conformation upon calcium binding

stimulation of: adenylate cylase
phophodiesterase
protein kinases

inhibitory calmodulin-binding protein: calcineurin

Cretinism:

High calcium may prevent the incorporation of iodine into the fetus producing severe hypothyreoism and idiocy (= teratogenicity)

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GD56 (S) B13 WS

cAMP
====

Lung Lavage:

increase in sheep as a response to asbestos exposure (Lemaire, I., Sirois, P., Rola-Pleszczynski, M., Massé, S. and Bégin, R., Early biochemical reactions in the lung of sheep exposed to asbestos: evidence for cyclic AMP accumulation in bronchoalveolar lavage fluids, Lung 159: 323-332, 1981)

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7.Feb.84 GD15 (LIT) A24 (RZ)

CARBAMATES
==========

Cholinesterase

sex differences:

Carbamate insecticides do not require metabolic activation (CaD, p.377).

Therefore sex differences in inhibition cannot be easily compared to sex differences in toxicity observed with organophosphorus insecticides (e. g. parathion), which are thought to be related to a greater activity of the hepatic P-450 MFO system in male rats (CaD, p. 67)

Screen for Neuropathy:

administration of atropine to hens to protect against acute cholinesterase inhibition caused leg weakness (CaD, p.369)

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GD57 (S) A3o

CARBON TETRACHLORIDE
==========

Effect on Pulmonary Surfactant:

increase of sulphated mucions in rat bronchial epithelium (Jones et al., Brit. J. Exp. Pathol. 54: 229, 1973)

dose-dependent decrease of amount of surfactant to less than 5o o/o after 45 d inhalation (Le Mesurier, S. et al., Proc. Aust. Biochem. Soc. 12: 58, 1979)+

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catechol F0357

GD59 (S) B14 (LA) 25.Jun.81

CATECHOLAMINES (1)

Determination:

TLC, coupling of fluorescing dye, excitation at 4o5 nm (Geissler, J. Chromat. 56: 271, 1977) (Seminar TLC/HPTLC, Essen, Dez. 1979)

Highly sensitive and specific radioenzymatic assay:

O-methylation or to N-methylation of catecholamines in biological systems using catecholamine-O-methyl transferase (COMZ) or phenylethanolamine-N-methyl transferase (PNMT), respectively with S-adenosyl-L-(methyl-3H) methionine as methyl donor. After methylation the individual catecholamines, as their methyl derivatives, are separated and quantified. (Amersham research news 9, 1981)

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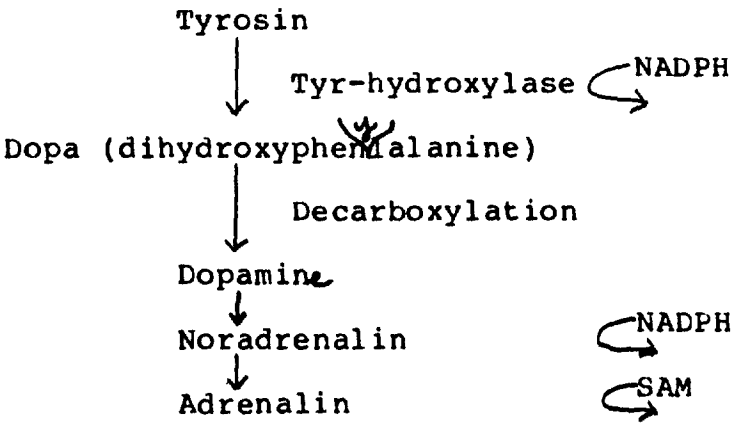
GD82 (S) B7 (LA) 25.Jun.81

CATECHOLAMINES (2)

Synthesis:

adrenal medulla, chromaffine cells

Biosynthesis:



dopa: synthesized in cytoplasm

dopamine to noradrenalin in varicosisties (a)

noradrenaline: synthesized mainly in varicosities (a)

Actions:

(1) vegetative: heart (increase of frequence and depth)
smooth muscles of intestines, bronchial

(2) metabolic: increase of cAMP in muscle, liver, adipose tissue
activation of phosphorylase, lipase (not noradenaline)

Dopamine:

(1) neurotransmitter
(2) precursor of adrenalin

(a) varicosity: storage of neurotransmitters in granula of presynaptic dendrites

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CATECHOLAMINES (3)
==========

Release from Adrenal Medulla:

exocytosis: chemical stimulation

↓

Ca-involved, granula-discharge ↑ membrane depolariztation

↓

discharge of catecholamines, ATP, proteins from chromaffine cells

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CATECHOLAMINES (4)

Regulatgion "types":

(1) regulation of cellular metabolism:
heat production,
fuel and O_2 consumption

(2) regulation of type of nutrient utilization
glycogenolysis,
lipolysis,
gluconeogenesis
(Landsberg, L. and Young, J. Seminars in Medicine of The Beth Israel Hospital, Boston Vol. 298, No. 23: 1295-13o1, 1978+)

noradrenaline:
reg. metabolism in vicinity of symp. nerve ending loci of release
activity suppressed by fasting
vasoconstriction,
increase of blood pressure

adrenaline:
reg. metabolism of all periph. cells
stimulation of heart action

Biosynthesis:

(1) adrenal medulla
(2) sympathetic nerves

relation between 2 systems not clear
(Landsberg, L. and Young, J. Seminars in Medicine of the Beth Israel Hospital, Boston Vol. 298, No.23: 1295-13o1, 1978+)

Functions:

cardiovascular output stimulated
regulation of pancreas: decr. insulin
incr. glucagon
incr. of Na-reabsorption in kidneys
incr. of renin-angiotensin-aldosterone system
(incr. renin release from juxtaglomerular apparatus)

Cat. are not responsible for fuel mobilization during fasting (Landsberg, L. and Young, J. Seminars in Medicine of The Beth Israel Hospital, Boston Vol. 298, No. 23: 1295-13o1, 1978+)

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GD57 (S) A27

CATHEPSIN G
==========

chymotrypsin-like proteinase, serine proteae (Janoff, A. et al., Amer. J. Pathol. 97: 111-136, 1979)+

Occurence:

PMNS (Janoff, A. et al., Amer. J. Pathol. 97: 111-136, 1979)+

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14.Jun.82 GD97 (S) A13 WS

1oT1/2 CELLS

Cell line suitable for oncagenic transformation:

Transformation Assay:

Method: (Nesnow, S., Garland, H. and Curtis, G., Improved transformation of C3H1oT1/2CL8 cellsaby direct- and indirect-acting carcinogens, Carcinogenesis 3: 377-38o, 1982)

Improved transformation and reduced cytotoxicity when cells were treated 5 days after seeding (Nesnow, S., Garland, H. and Curtis, G., Improved transformation of C3H1oT1/2CL8 cells by direct- and indirect-acting carcinogens, Carcinogenesis 3: 377-38o, 1982)

Metabolic Activity:

Cells possess cyt. P-45o, NADPH-cyt.C reductase, epoxide hydratase, UDP glucuronic acid transferase. DAB and azo dyes, however, cannot be metabolized (Nesnow, S., Garland, H. and Curtis, G., Improved transformation of C3H1oT1N2CL8 cells by direct- and indirect-acting carcinogens, Carcinogenesis 3: 377-38o, 1982)

Transformation Assay:

Sensitivity of assay increased if conducted in the absence and presence of TPA, since without TPA direct acting alkylating agents such as MNNU and aflatoxin B1 produced only a few transformed foci (Boreiko, C.J., Ragan, D.L., Abernethy, D.J. and Frazelle, J.H., Initiation of C3H/1oT1/2 cell transformation by N-methyl-N'-nitro-N-nitrosoguanidine and aflatoxin B1, Carcinogenesis 3: 391-395, 1982).

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GD59 (S) B5

CELL CULTURE (1)
==========

Cross Feeding:

defined relation between cells and medium

Suspension Culture:

very difficult

Secondary Cultures:

similar properties to primary culture within approx. 5 passages

Cell Fusion:

produced by polyethylenglycol-addition = heterokaryon, "metaplasia"

Lung Cell Lines:
human fetal lung type 2 pneumocytes, HFLP-labelled (Tanswell, K.A., Smith, B.T., Pediat. Res. 13 : 1o97-11oo, 1979)

Removal of Cytotoxic Smoke Components:

charcoal filter = removal of gases = no inhibition of growth of human cell cultures (Thayer, Kensler, Science 146 : 642-644, 1964)

Syrian Hamster Embryo Cells:

mixed type cell culture,
1o to 13 d old embryos,
low incidence of spontaneous transformation, neoplastic transf. only with known carcinogens, but not by non-carcinogens (J.C. Barrett, Vortrag Essen, 22.4.8o)

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GD61 (S) B7

CELL PROLIFERATION
==========

Mouse Epidermis:

increase 1o h after application of tumor-promoting mitogens (Krieg et al., Cancer Res. 34: 3135, 1974)

Inhibitors: epidermal G1 chalone
cAMP
inhibitors of phosphordiesterase
beta-adrenergic agonists (Marks, F. et al., Cancer Research 39: 4183-4188, 1979)+

2028916443

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD27 (S) B1o (PW)

CELLS, CULTURED
==========

Cell lines with active monooxygenases: (rt)

hepatoma cell lines H5 and HF1-4 (Lambiotte, BBRC 89: 93 (1979), Wiebel, BBRC 94: 466 (198o).

Cells in continuous culture express monooxygenase forms characteristic for liver, which are lacking in other closely related lines. According to their monooxygenase content, the cells exhibit some degree of "organ specificity" in their response to cytotoxic and genotoxic chemicals, example: diethylnitrosamine (hepatotoxic) strongly cytotoxic to P-45o-containing cells, but P-448-containing cells were insensitive.

assays:
(1) cytotoxicity, cloning efficiency
(2) genotoxicity: alkaline DNA elution (cf.) of 14C-prelabelled cells according to Parodi (1978)
(Loquet, C., and Wiebel, F.J., meeting abstract, German Pharmacol. Soc., Mainz 1981+)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD78 (S) A23 (LA) 27.May 81

CERVICAL DISLOCATION
==========

Lung Ultrastructure:

no changes after urethane and pentobarbitione. Blebs in capillary endothelial and type 1 pneumocytes after ether inhalation and cervical dislocation (Finlay-Jones et al., Pathology 3: 181, 1971)

2028916445

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD58 (S) A9

CHEMOKINESIS

Definition:

increase of velocity of movement of cells caused by chemicals

Activators:

serum albumin,
fibrinogen (=) (Vortrag Wissler, Biochemie Bad Nauheim, Jan. 1980)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

CHOLESTYRAMINE
==========

Precipitation of lipid components especially bile acids from the bile and sterols from the intestinal content. Bile acid sequesterants enhance cholesterol elimination in to the stools, primarily as bile acids. (Miettinen, T.A., Effects of dietary fibers and ion-exchange resins on cholesterol metabolism in man, in: Carlson, L.A., Paoletti, R., Sirtori, C.R. and Weber, G.: International Conference on Atherosclerosis, Milan, 1977, New York, Raven Press, pp. 193-198) Li Med 99

Physiochemical Properties:

Anion-exchange resin,
gritty powder,
unpleasant fishy odor
(Howard, A.N., Hypocholesterolemic effect of bile acid and long-chain fatty acid sequesterants, in: Carlson, L.A., Paoletti, R., Sirtori, C.R. and Weber, G.: International Conference on Atherosclerosis, Milan, 1977, New York, Raven Press, pp. 199-203)

Cholestyramin ist die Chloridform eines durch quaternäre Ammoniumgruppen basischen Ionenaustauschers. Im Darm bindet Cholestyramin organische Säuren, vor allem Gallensäuren. Dosen von mehr als 10 g/Tag erhöhen die fäkale Gallensäuren-Ausscheidung. Der Einfluss auf den Cholesterinspiegel ist nicht zuverlässig (wohl wegen der endogenen Synthese), aber bei Vermehrung der LD-Lipoproteine meist feststellbar. Nebenwirkungen können sich bei gleichzeitiger Gabe von Arzneistoffen ergeben. Obstipation ist häufig. Hohe Dosen Cholestyramin verringern die Fettresorption und führen zu Steatorrhoe. Die Resorption fettlöslicher Vitamine wird dadurch verringert (Henschler, Forth).

2028916447

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD57 (S) A15

CHROMIUM
========

Toxicity to Lung:

trivalent Cr: rel. nontoxic after inhalation (Henderson, R.F. et al., Tox. Appl. Pharmac. 5o: 123-136, 1979), towards alveolar macrophages in vitro (Waters et al., Environ. Res. 9: 32, 1975)

hexavalent Cr: ulcerative, carcinogenic (Henderson, R.F. et al., Tox. Appl. Pharmac. 5o: 123-136, 1979)+

2028916448

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD6o (S) A21 WS

CHRONIC GRANULOMATOUS DISEASE
==========

Histioytes (Macrophages):

large, lipid-filled macrophages in the viscera of patients, cytoplasm "foaming", vauole content yellow-brown pigmented (Klebanoff, S. and Clark, R.: The Neutrophil: Function and Clinical Disorders, Amsterdam: North-Holland Publishing Company, 1978: pp. 649) (hu)

2028916449

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD61 (S) B2o (LA) 27.May 81

CLARA CELLS
==========

occurence in regions which lack basal cells (e. g. alveoli) (hu)
also stem cells for other epithelial cell types,
highest activity of monooxygenases

very high content of smooth ER in (peculiarity) (hm)
(Reznik-Schüller, H.M., "Wissenschaftliches Kolloquium",
21.Aug.8o)

Function:

secrete protein component of surfactant (type 2 pneumocytes add phospholipid)
(Klara Miller, Lung toxicology workshop, Gothenburg 1981)

2028916450

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD61 (S) A27 WS

CLASTOGEN
=========

Definition:

chromosome-breaking agent
(Chatterjee, S., Cheung, H.C. and Hunter, E., Interferon inhibits Sendai virus-induced cell fusion: an effect on cell membrane fluidity, Proc. Natl. Acad. Sci. 79: 835-839, 1982+)

2028916451

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD56 (S) A9

COAL TAR
========

Carcinogenicity:

coal tar widely used in the treatment of common dermatologic diseases (psoriasis, chronic eczematous dermatitis) (D.R. Bickers and A. Kappas, J. Clin. Invest., 1o61:1o68, 1979)

skin tumors observed in patients who have repeatedly used large amounts of tar for years.

non-B(a)P containing and B(a)P containing fractions were tumorigenic in mouse skin (Berenblum and Schoental, Brit. J. Cancer 1: 157-165, 1947)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

25.Apr.84 GD1 (LIT) A22 (WS,RZ)

DIURNAL VARIATIONS (a) (1)
==========

Daily Variations:

mortality (entrained by light and dark),
liver glycogen,
glycogen phosphorylase,
tyrosine transaminase,
trp pyrrolase,
esterase,
urine volume and pH,
sodium, potassium, chloride, phosphate, uric acid and 17-ketosteroid excretion,
mitotic rate of skin, kidneys and adrenal cortex,
blood leucocytes
(Gall, D. in: Ballentyne, B. (ed.): Current Approaches in Toxicology, Bristol: John Wright and Sons Ltd., 1977, pp. 12-21)

Seasonal Variation:

liver glycogen
(Gall, D. in: Ballentyne, B. (ed.): Current Approaches in Toxicology, Bristol: John Wright and Sons Ltd., 1977, pp. 12-21)

Circadian Variation: (b)

activity/sleep,
body temperature,
pain threshold,
adrenocortical function,
skin histamine sensitivity,
liver and renal function,
eosinophil count,
mitotic rates
(Gall, D. in: Ballentyne, B. (ed.): Current Approaches in Toxicology, Bristol: John Wright and Sons Ltd., 1977, pp. 12-21)

Cellular clock based on sequential DNA transcription ov-cell membrane fluidity oscillations
(Gall, D. in Ballentyne, B. (ed.): Current Approaches in Toxicology, Bristol: John Wright and Sons Ltd., 1977, pp. 12-21)

2028916453

(a) more correctly "nychthemeral", nocturnal and diurnal refers to daytime and nighttime, respectively
(b) "approx." a day's length

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

25.Apr.84 GD1 (LIT) A27 (WS,RZ)

DIURNAL VARIATIONS (2)
==========

Circadian Activities:

dimethylbenzanthracene,
nicotine (cf.),
sodium pentobarbitone,
endotoxin,
ethanol,
acetylcholine,
halothane,
lignocaine,
p-nitroanisole,
reserpine,
actinomycin D,
5-fluorouracil
(Reinberg et al., Int. J. Chronobiol. 1: 157, 1973)

Toxicity:

no significant differences in response to dust exposure during day or night (Weller, BGA 1984)

2028916454

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

1.Oct.82 GD97 (S) A22 WS

DNA GYRASE (= Topoisomerase 2)

Function:

Introduction of supercoils into closed DNA causing partial unwinding. Enzyme reqired for replication (E. coli) (Adams, R.L.P., Burdon, R.H., Campbell, A.M., Leader, D.P and Smellie, R.M.S: The biochemistry of the nucleic acids, 9th Edition, London: Chapman and Hall Ltd., 1981, pp. 254-255)+.

Occurence:

E. coli. No evidence in eukaryotic systems, where histones may make it superfluous. However, a related enzyme activity has been found (Adams, R.L.P., Burdon, R.H., Campbell, A.M., Leader, D.P and Smellie, R.M.S: The biochemistry of the nucleic acids, 9th Edition, London: Chapman and Hall Ltd., 1981, pp. 254-255)+.

Effectors:

Inhibition by coumermycin, novobiocin, nalidixic and oxolinic acid (Adams, R.L.P., Burdon, R.H., Campbell, A.M., Leader, D.P and Smellie, R.M.S: The biochemistry of the nucleic acids, 9th Edition, London: Chapman and Hall Ltd., 1981, pp. 254-255)+.

Polyamines (keyword) may modulate activity.

Molecular Data:

tetramer, Mr: 400000, 2 enzymes (DNA-dependent ATPase, nicking-closing enzyme) (Adams, R.L.P., Burdon, R.H., Campbell, A.M., Leader, D.P and Smellie, R.M.S: The biochemistry of the nucleic acids, 9th Edition, London: Chapman and Hall Ltd., 1981, pp. 254-255)+.

2028916455

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD78 (S) A16 (LA) 27.May 81

2,3-DIPHOSPHOGLYCERATE

Concentration In Blood:

1.3o mmol/mmol Hb (Azoulay, E. et al., Bull. europ. Physiopath. resp., 14: 311-325, 1978+)

2028916456

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD82 (S) A11 (LA) 22.Jun.81

DOPAMINE
========

Dopamine Receptors:

dopamine receptors in the periformical hypothalamus mediate feeding inhibition (Leibowitz, S. and Rossakis, C., Brain Research 172: 115-13o, 1979+) (rt)

2028916457

Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000

GD69 (S) A2 (PW)

DOPA
====

Assay:

The availability of S-adenosyl-L-(methyl-3H)methionine(3H-SAM) at very high specific activity has made possible the development of a highly sensitive and specific radioenzymatic assay for catecholamines. The basis of assay is either to O-methylate or to N-methylate the catecholamines in biological systems using catecholamine-O-methyl transferase (COMZ) or phenylethanolamine-N-methyl transferase (PNMT) respectively with 3H-SAM as the methyl donor. After methylation the individual catecholamines, as their methyl derivatives, are separated and quantified. Amersham research news 9, 1981)

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Source: https://www.industrydocuments.ucsf.edu/docs/hjdl0000